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Forest Pest Management

BIOLOGICAL
EVALUATION R2-76-2

EXAMINATION OF BESSEY
NURSERY STOCK
FOR
WESTERN GALL RUST

MAY, 1976

Rocky Mountain Region

U.S. Department of Agriculture Forest Service

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ROCKY MOUNTAIN STATION

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During 1971, Forest Insect and Disease Management personnel made a decision to periodically sample ponderosa pine seedlings from Bessey Nursery beds for the presence of western gall rust, Endocronartium harknessii (refer to memorandum 5200, Forest Insect and Disease Control, dated 11/30/71 - subject, "Trip to Bessey Nursery and District, Downing and Brown"). As early as 1963, various research and pest control personnel had noticed infection of the nursery stock, apparently from spores released from infected trees near the nursery beds. Several persons expressed concern that the rust may be inadvertently spread to other areas of the Region from infected, out-planted, nursery-grown seedlings.

Western gall rust has been reported on a very low percentage of the nursery stock - 0.5 to 4 percent. However, since 1971, 1,000 seedling samples have been collected at two-year intervals to more accurately determine infection rates for nursery stock that has been inspected and cleared for shipment. Each sample was then shipped to the Colorado State Forest Service Nursery at Fort Collins and potted. The seedlings are maintained in a lath house at the Colorado State University for three years to allow gall rust symptoms to appear.

The following data are for the first two samples of seedlings:

Year Sampled	Examination Date	Seedlings Examined	Live	Dead	Rust Infected	Missing 1/
1971	7/15/74	655	522	133	0	345
1973	5/13/76	677	587	89	1	323

1/ The large number of missing trees is primarily attributed to vandalism. Corrective action has been taken to prevent any further vandalism.

The 1975 seedling sample of 1,000 seedlings will be examined in 1977. Another sample of 1,000 seedlings should be selected from the nursery during the spring of 1977.

Since the rust level has been so low, this study will be terminated after examination of the 1977 sample which should take place in 1979 or 1980. Examination of the seedlings after a two-year holding period should be adequate to detect any infected seedlings.